

BUCHANAN'S JOURNAL OF MAN.

VOL V.

JUNE 15, 1855.

No. 6.

MORAL INFLUENCE OF THE INTELLECTUAL ORGANS.

A somewhat critical and imaginative correspondent of the "Christian Spiritualist," in reviewing at length the essay upon the above subject in the March No. of the Journal of Man, concludes an essay of seven or eight columns, as follows:

"But let us now inquire, seriously, what would be the inevitable effect of such a philosophy, and it could be carried out in practice. All active occupations, all art, all science, except the purely metaphysical and moral sciences would be cut off at once. It would check all discovery, restrain all invention, discourage all education, and arrest all progress. It would paralyze the arm of the artisan, and crush the soul of art. It would close the heart against the love of beauty, and the mind against the teachings of Nature. It would root out and destroy all that is good and beautiful, and necessary to life—all that supports, refines, exalts, adorns. It would dwarf and distort the human type, and convert the human being into a monster, and finally it would return man to his cave, and supper of raw roots, a naked and helpless savage."

It is unnecessary to trace in detail the logical distortions and misunderstandings by which the writer has arrived at such grotesque conclusions. The doctrines of the essay need no defense—truth defends itself. But there is one passage, which, perhaps, is not sufficiently guarded against misconception:

"The cultivation of the fine arts, which is so freely eulogized as one

of the most necessary influences for the improvement of a people, is, in fact, *generally promotive of a refined and luxurious selfishness, which has neither manhood, generosity nor philanthropy.*

This indicates the tendency of such cultivation to be *refinement, luxury and selfishness.* That it cultivates selfishness, like all other productions for personal gratification, is equally true. The purchaser of pictures and statues, like the purchaser of horses, fine furniture, and fine clothing, is merely exercising his acquisitiveness, vanity and taste. The producers of such works (who are less numerous) cultivate the same industry which is developed in other industrial vocations, and differ from ingenious artisans, chiefly in their greater cultivation of Ideality.

Setting aside, then, the influences of a refined intellectual occupation upon artists themselves, who constitute a small portion of society, and looking to the general influence upon the community, which was the subject of the paragraph, we can discover in the influence of painting and sculpture, nothing that qualifies man for the great duties of life. They do not qualify the citizen-soldier with courage and generous enthusiasm to defend his country through a tedious campaign. They do not inspire the mother with any additional devotedness in wearing out her life for a sick child, or ministering night and day to a sick husband who has no longer the manly beauty that won her admiration, and whose present appearance is very repulsive to artistic taste. They do not qualify the philanthropist to encounter moral martyrdom in the diffusion of knowledge and virtue.

They refine the character, but they do not make it strong or lofty, and when they occupy too much of our attention, it is generally at the expense of that philanthropic and religious culture (by profound studies and noble deeds) which really elevates mankind.

There is, however, a grand inspiration in art—not the art of man but the art of God. Every day when we walk forth beneath the myriad-tinted sky and behold the snow-white battlements of Heaven, moving in mountain volumes, convolved and changing through the blue expanse, or piled up as fiery mountains toward the setting sun, we inspire the Divine mentality, which willed and formed the magnificent scene. And when, through the hazy softening atmosphere we behold the undulating bosom of the green earth and the swelling outlines of the wooded hills, we are inspired with the gentle benignity which such a scene expresses, and better fitted to love and bless our fellow beings. And when, on the desolate heath or mountain crag, we encounter the driving tempest and terrific thunderbolt, we are inspired with a more lofty sentiment and more heroic energy for the trials of life. This is the inspiration of Divine art, and this the artist may drink in—but the purchaser of pictures has no more of this than the gatherer of Daguerreotypes has of the inspiration of intellectual society.

So much for the influence of the fine arts, which I am strongly tempted to criticise, by the fact, that it is often boastfully presented by superficial moralists and pretenders to fashionable Christianity, as almost a substitute or rival for real substantial virtues. The kid-gloved Christianity which is scrupulously attentive to the purity of its linen, which nicely regards the external proprieties of life, and fills its parlor with costly pictures, utterly unmindful that the cost of one of those pictures might have preserved in life and health a living picture—an image of the Deity—equally beautiful and endowed with conscious immortality—does not belong to any elevated sphere of humanity. I would rather cast my lot in life and death with a plain farmer who has perhaps no pictures in his house but the living pictures of health, happiness, and rustic beauty—whose expenditures bring pictures of happiness and hospitality around his table,—who sends forth living pictures of heroism, rifle in hand, to defend his country, and whose venerable head becomes a picture of human dignity and worth, although he has neither owned nor beheld the feeble canvas imitations of the twenty thousand sun-dawns and sunsets, that have been pictured on his eye.

Art has its place as one of the refining influences of society, but it is a very subordinate place in an ethical sense, and the exaltation of art as a moral agency beyond its true position indicates a poor appreciation of the true moral worth of humanity, and tends to substitute superficial and flimsy for more substantial virtues.

The existence of the fine arts is the effect, and not the cause, of certain intellectual developements. They express our conceptions of the beauties of nature. The moral and refining influences lie in nature itself,—the *divine painting and sculpture*. How we are to obtain any great moral benefit by turning from the Divine picture to view the imperfect human imitation, it would puzzle the most enthusiastic votary of art to explain.

To return to our proper subject—as for the doctrines of the essay, correctly understood, I might reaffirm and illustrate more largely their truth, if it were necessary. They are not only the result of positive experiment and scientific investigation, but are amply confirmed by the largest experience of life.

To those who are unaccustomed to the new methods of investigation, who study the human mind entirely in its unitary aspects, and who are unacquainted with the psychological anatomy by which the elementary capacities and tendencies of the human mind are distinguished from each other, it is sometimes difficult to convey a just conception of the elementary human faculties. This difficulty exists to some extent among all to whom this analysis is unfamiliar, and who are accustomed only to the old method of studying the mind of man. This method—the single or unitary method (which conceives the mind as a whole) which began with

human consciousness, and descended from the most ancient times to the present, was first changed by Gall, by whom the unitary mind and unitary brain were subdivided into distinct faculties and distinct organs. The analytic view was vigorously demonstrated and urged by Gall as regards the brain, but not thoroughly carried out as a system of mental philosophy. Yet notwithstanding the grand demonstration of Gall, universal modes of thought confirmed by habit, are not easily changed, especially when they embody an essential truth. Hence among literary philosophizers and phrenologists of moderate scientific attainments, there is a continual tendency partially to forget the positive analysis of Gall, and to fall back into the superficial view which recognizes the mind in its conscious action and regards its different faculties as but varying moods or aspects of one unitary spiritual power. They unconsciously regard the mind as an entirely independent existence exercising in immovable dignity and selfpossession the faculties and passions displayed through the various organs, as a profound musician would touch the keys of his harmonious instrument, forgetting the fact that our passions, faculties and organs are not mere fixed and passive instruments, but are the very elements of our minds and characters, a material change of which gives us a new mind and a new character. The absolute and entire predominance of a new group of organs and faculties, whenever established, produces a new character and a new temperament, almost as fundamentally different as if the individual were converted into another being.

Those who discuss mental philosophy from the old stand-point of unitary consciousness, are often embarrassed and confused in their first glimpses of psychological anatomy, and the profounder philosophy to which it gives rise. Accustomed to contemplate the mind as the artist contemplates the human form in its unitary action, grace, and beauty, they feel, like the artist, some repugnance to the unpoetical associations of the dead-house, and the matter-of-fact revelations of the scalpel, among the muscles and viscera which serve to constitute that wonderful form, which in its unitary action is so perfect and pleasing, although its anatomical analysis may be repulsive to the taste which delights to revel in superficial beauty, and to ignore the less pleasing details of sacred truth.

To those who thus delight to look at the world only with artistic eyes, forgetting the gross materials and uncleanly labor by which flowers and cereal plants are produced,—or those who delight to contemplate the human mind in its vigorous display, its noble attributes, its grand spheres of development, and its unending cycles of progress,—it may not be very attractive to turn back to the elementary construction of man, to recognize the foul and repulsive elements which belong even to the most beautiful form, and the inherent tendency to vice and crime which are

essential portions of the human constitution, and from which man is never exempt in terrestrial life.

The demonstrations of Gall have shown so clearly the existence of the animal passions of man, which, uncontrolled by the higher powers, produce the same results in human beings as in the lion and tiger, that it is not now necessary to fortify such a proposition by facts and arguments, nor would I allude to it, but for the fact that many appear still averse to the phrenological analysis, and anxious to regard the human organs as latent capacities for certain good purposes or proper actions, instead of recognizing them as the elementary forces by which man may be impelled to the zenith or nadir of the moral sphere, and from which he derives an infinite variety of capacities for moving in an infinite variety of directions—as many as constitute the radii of a complete sphere.

It is true that the normal course is upward and onward, and in the rightly balanced brain the upward and onward tendencies greatly predominate: indeed the onward tendency predominates in all, and the upward tendencies have an ultimate predominance in our race, although the downward are often sufficiently potent for a time to bring down the individual to the regions of crime and misery, until higher and more benignant influences restore the sway of the moral nature.

With that superficial optimism which cannot discover any evil tendency in humanity, I do not sympathize. I perceive nothing to be gained by thus ignoring a truth so positive and evident; but at the same time I would not insist exclusively upon the analytic view of the human constitution, which traces the different faculties in their uncontrolled and excessive action; on the contrary I have taken much pains to insist upon the truth of both the analytic and synthetic views. And while I have carried the organic analysis of the brain, and the corresponding analysis of the mind vastly beyond the doctrines of Gall, I have taken much pains to insist that, practically speaking, the brain is a unitary organ, and the mind a unitary power, and that the unitary and analytical doctrines are perfectly harmonious when rightly understood.

After these remarks it may be more obvious that one who occupies the unitary stand-point exclusively, may not appreciate the developments of analytic philosophy unless he has carefully studied its principles and examined its evidence.

If in describing the functions, tendencies or ultimate results of the human organs, I should be misunderstood by any to whom the analytic philosophy is unfamiliar, the misunderstanding would not surprise me, but in addressing such persons, I should consider it a great oversight to omit that necessary explanation of the analytic view, which would prevent their misconception. If in the present instance misconceptions have arisen, they are owing to the fact, that the essay in question was designed for those already familiar with the explanation. The analytic

view of the human constitution originally suggested by Gall, has been carried out with metaphysical and physiological completeness in my system of Anthropology, arriving at results far beyond and different from the original conceptions of Gall. In describing the functions of organs analytically, I separate them by a rigid analysis from all other elements of our nature. In describing the intellectual organs, for example, instead of describing merely the intellectual exercises in which the organs of the brain generally are brought into play, I speak of the primary and ultimate tendencies of the intellectual organs alone, distinct alike from the moral and animal nature; apart from all the motives and conditions of intellectual effort, tracing their effects primarily in the normal action of the brain, secondly in over-ruling the entire constitution by organic predominance; and thirdly in excessive action, and the paralysis of all antagonistic powers. These effects produced upon the cerebral circulation through the carotid plexus and cervical ganglia, extending through all the ganglia and splanchnic nerves, changing the condition of the crura cerebri, pons varoli and cerebellum, extending thence throughout the cerebro-spinal system, the viscera and muscles, changing the relations of the albumen and globulin—of nitrogen and oxygen in the blood, and producing numerous other effects unnecessary to specify, constitute a scientific portrait of the effects of the intellectual organs, in the whole of which the same pervading tendency is seen, in various degrees of development. This thorough analysis and developement of the effects produced by circumscribed portions of the brain upon the entire mental and physical constitution, is a matter which has heretofore been almost unknown to physiologists. The foremost inquirer in this direction, Dr. Gall, having gone no further than the immediate and obvious results of special organs.

Those who have not looked beyond the familiar and obvious phenomena of intellectual action in a well balanced brain have a very imperfect conception of true cerebral science. They understand, of course, the elevating and refining influence of intellectual exercise upon the entire brain; they perceive that it gives vividness and delicacy to every psychological operation. They observe that both perceptive and reflective action are practically associated with a great amount of virtuous emotion, active life and harmonious developement. They perceive that the intellect beautifully performs its part in the great circle of associated action, and contributes largely to our physical and moral welfare—they perceive, too, in the history of our race, that the intellectual organs in the aggregate,—perceptive, recollective and reflective—have each and all been the pioneers of humanity in its onward and upward career, and are at this time, the pioneer guides and redeemers of the race. All this and much more of the same sort they may perceive, yet in understanding these things they are far from understanding this department of Anthropology, in which such facts constitute but the threshold of the subject.

The knowledge of such facts does not constitute one an anthropologist. As well might the poet, accustomed to contemplate the starry heavens, or the navigator, accustomed to make observations on the celestial bodies in his voyages, claim to be an astronomer. Anthropology is a very extensive and complex department of positive science. It demands much more than that knowledge of human nature which is familiar to nearly all well educated people. It demands a knowledge of the precise cerebral and corporeal organs for the manifestation of the many thousand elements of human nature, the infinitely varied conditions of these organs, the effects of these conditions upon the mind—the effects of the mind upon the cerebral and ganglionic masses, and through them the mutual sympathies of the various functions of body and mind—with many other complex matters, the mere enumeration of which would give too technical an air to any communication not especially addressed to medical men.

It is very easy to discuss the philosophy of mind without this necessary knowledge, as it was easy for the ancients to form theories of astronomy, and anatomy, without scientific observation, and consequently without truth. In such matters the consciousness of ignorance is the beginning of wisdom. An artist acquainted with the human form, merely by artistic observation, would not venture to pronounce an opinion upon its interior structure in opposition to a competent professor of anatomy. The details of anthropology are certainly no less complex and recondite than those of anatomy. However freely speculative writers may venture to discuss subjects which are embraced in the range of common observation, they are sadly at fault when they enter upon the sphere of positive science, without positive knowledge of scientific facts which cannot be guessed at by imagination, and which can only be acquired by the patient and modest labor of the student.

That the tendency of the intellectual organs in the aggregate is neither moral nor animal, but may co-operate with either our higher or lower faculties, and that of the two departments of the intellect the higher or reflective faculties have the greater tendency to co-operate with the coronal organs, and the lower or perceptive group more especially with the basilar, is a careful scientific induction, the truth of which I must positively affirm—the demonstration of which, resting upon an immense number of physiological and pathological facts, would require an essay by far too voluminous for the present occasion. I have seldom found it necessary to bring forth a very extensive array of argument in behalf of any true proposition—for the truth of any statement renders it acceptable to all well developed, harmonious, unprejudiced minds. But few illustrations or arguments are generally necessary with those who are cordially receptive of truth.

That the intellectual organs are entirely distinct from the reflective is

a fundamental principle of Phrenology. Intellectual developement, therefore, is not an indication of either moral or animal character. As the intellectual is evidently capable of co-operating with either the higher or the lower elements of character, guiding with equal ease a scheme of revenge, or a benevolent enterprise, the question arises whether all the intellectual organs alike co-operate indifferently with the higher and lower organs, or whether there is a difference in the moral tendency of the different groups.

The proposition already presented, that the higher or reflective group has a greater tendency to co-operate with the coronal organs, and that the lower or perceptive range is more liable than the former to co-operation with the basilar organs, may be amply illustrated by reference to society, and to many familiar facts.

The perceptive developement is associated with general animal developement by belonging to a lower stage of progress. Among animals, generally, the perceptive organs have a greater proportional developement, or predominance, than in man, while the reflective organs are signally deficient. In simple perception, powers are evinced by dogs, birds, and various wild animals, which man cannot equal. The perceptive power thus developed is associated with the superior activity of the animal, and the inferior developement of the moral nature.

There is no direct association of the reflective faculties with our sensual appetites and muscular passions. On the contrary, reflection tends to moderate and refine their intensity. The perceptive faculties, on the contrary, are in constant association with sensual enjoyment, and impulsive passion. They bring before the mind the objects which excite our passions and desires, and preside over their application and indulgence. In fact the perceptive intellect is an absolute necessity to the animal nature, without which the latter could not be developed. But the reflective intellect, which has no such intimate connection with animal passions, exercises, by its peculiar relation to the brain, a calming influence over animal life and passional impulse. I would not affirm that the reflective intellect is as absolutely necessary to the moral, as the perceptive to the animal nature, for the emotions may be developed without the higher intellect which should be present to guide them. But in such cases much evil results from the influence of the emotions unguided by wisdom. Without the reflective faculties they cannot form rational principles, and the blind action of Religion and Benevolence, unguided by true principles, has filled the world with confusion, strife and calamity.

The objects and intentions of the moral organs require reflective co-operation as urgently as the perceptive action is demanded by animal impulses. Their aim is to accomplish good—to realize happiness—to attain which, Reason and Foresight are absolutely necessary. The father who would tyrannize over his family requires nothing more than the per-

ceptive faculties to carry out his brutality. But if he would train them rightly for a happy career in life, Judgment and Foresight are absolutely necessary. So in the affairs of nations, in the operations of war, and in the efficient administration of despotism, the knowing faculties are chiefly requisite, but for the guidance of a nation in freedom, social harmony, universal prosperity and enlightenment, a degree of wisdom is requisite which has never yet been found in the high places of government.

In the history of our race, perceptive growth and animal activity precede reflective power and development. The history of the world many centuries back is a record of continual war, demonstrating the activity of the animal nature, in connection with which we find a meagre literature and philosophy; but a grand development of the perceptive faculties as displayed in the arts which minister to luxury and ambition. The architecture, sculpture, painting, and martial gymnastics of the ancients have not been surpassed by the moderns.

This consociation of the perceptive with the animal, and the reflective with the moral, is witnessed alike in the history of races—in the gradations of the animal kingdom, and in the development of the individual through the successive stages of life. Infant life begins with simple perception, appetite and animal impulse, and so slow is the growth of the reflective and moral faculties, and the corresponding ripening of the cerebral organs, that the term of twenty-one years has been fixed by law as the period of minority, which must elapse before the individual is considered accountable for his conduct, and capable of assuming his position as a member of society. It is contrary to the harmonious order of nature to require the higher manifestations of the moral faculties in infancy—such precocious manifestations interfering with that vigorous animal development which should precede the moral.

When withdrawn from those turbulent scenes of war and strife, in which the animal faculties and perceptive powers have their most intense activity, we enjoy the pleasures of contemplation, the calm delights of love and religion, the communion of spirits, and the still, small voice of conscience. In the normal course of nature, which is not disturbed by disease, and which has not accumulated in age the penalties of violated laws,—the animal passions and perceptive faculties decline together. Impulsive anger and the ambition of conquest decline, as the vision grows dim, and surrounding objects attract less attention. Our lives are now tranquil and spiritual, and we gladly pass into the higher stage of spirit life, in which our animal nature, deprived of its corporeal apparatus of perception, motion, and sensation, loses the controlling power that it previously possessed, and ceases to be capable of producing the disorders which attended its activity in terrestrial life.

Hence it is that spirits in their communications with us no longer manifest any real strength in the passions they displayed on earth; and

no longer display the same aptitude for physical and positive science. More than nine-tenths of the communications thus far from spirits have been from the reflective faculties. Their writings abound in principles and general views, mildly and gracefully expressed, conveying but little positive knowledge, yet insinuating gently the first principles of self-evident truth, as appreciated by the reasoning faculties—seeking by this gentle presentation to introduce truth kindly to stubborn minds, but never startling the world as it might well be startled by the presentation of a certain class of facts.

As another illustration of the different tendency of the reflective and perceptive faculties, I might refer to the harmonizing and co-operative influence of the former. It is by means of the reflective faculties that true principles are discovered and established. It is by their assistance that mutual explanations, co-operative action and perfect harmony become practicable in society. They cause men to unite in truth, instead of following the blind impulses of feeling, and running into violent collision with each other. They furnish, in short, the atmosphere of social life, which the generous and loving sentiments impregnate with their own rich aroma. When in the progressive growth from the physical perceptions of barbarism, to the science and wisdom of harmonious life, the higher understanding has attained sufficient power and predominance in the human race, our social enjoyment will be vastly increased, and the harmonious union of mankind in the principles of truth, will render all as one family, connected by the electric chain of sympathy—and dwelling in an atmosphere of universal love, the tides and undulations of which will form the history of human happiness.

A PLAIN TALK ON PHRENOLOGY.

NO I.—TEMPERAMENTS.

How common is the desire to meet with those who possess superior intelligence, or who have passed through remarkable scenes, and to derive from them a portion of their intellectual wealth. How common, too, is the feeling when we have anything to impart, either useful or interesting, that if we had our friends before us in a conversational group, we might give them a thorough understanding of what we wish to present, although we might despair of completely conveying our meaning by the use of the pen. Oral communication is considered by all the most efficient method of conveying intelligence, and could a conversation be faithfully daguerreotyped it would embody knowledge in the most attractive form for all.

Hence, kind reader, I have thought of holding a series of conversational interviews with you, to present the subject of Phrenology in its most simple and attractive form. Let us now make a beginning by devoting a conversation to the most prominent signs of intellect, talent and character.

Practical Phrenology presents itself to the mind in two ways. First: we have certain qualities in our minds for which we are looking out, and we wish to recognize them when we meet them. Secondly: we observe men with remarkable heads, and we are curious to know how to interpret their peculiar developement. Let us begin by ascertaining how to judge of the intellect.

A *smart man*, in the common sense of the phrase, is not to be detected by any peculiar form of the forehead. Smart men have heads of so many different shapes, and foreheads of so many different forms, of large and small developement, that it is no wonder that superficial observers should become doubtful of the principal truths of Phrenology. Smart men—that is, men competent to succeed in business and society, owe their success to a certain activity and energy in the mental faculties, which does not depend on the size of the intellectual organs alone.

Strength of character and activity of temperament depend upon the posterior part of the head, and upon certain qualities of the physical constitution, which the posterior organs generally produce by driving man into active life. Hence the man who has a good occipital developement is generally considered a smart man, unless the intellectual organs are extremely deficient. For although his intellectual organs may be moderate in developement, they are forcible and active in their manifestations. Hence it is that we see smart and successful men with all kinds of heads; if they have a sufficient developement of Firmness, Ambition, and Impulse, to give them life and action.

When, in heads of this energy of temperament, we have large intellectual developement, expressed by a prominent forehead, measuring largely from the ear and projecting over the face, we have more than a smart man, we have a man of decided talent—a man who takes comprehensive views, and who is competent to be a leader in society. You may study his forehead with interest, for all his organs are active, and productive of important effects.

There is not much interest in studying the heads where the temperament is inferior, and the action of the brain feeble. Among such individuals we find no talented or influential men. If they have large heads, they may be respectable, and occupy an honorable position in society, but they are never great or brilliant.

Great men, brilliant men, talented men, and smart men all have brains of more or less intense activity, with an active circulation of blood, and a constant flow of thought and feeling. The temperament, or vital ac-

tivity of the brain, is, therefore, the first thing to be ascertained, when we wish to determine its intellectual power. With a very sluggish temperament, we have not much to expect from any kind of a head. With a very active temperament, the poorest head will show something interesting and useful. Let us then consider the qualities of the temperament, before taking up particular faculties.

What do we mean by temperaments? Do we mean an over-ruling influence distinct from the brain, distinct from the special organs, and thus independent of Phrenology? Not at all. It was so in the old system of Phrenology, but it is not so in the complete system of Anthropology which we now present. Under the teachings of Gall and Spurzheim the brain was known only as an organ of the mind, and consequently the various activity of the organs, and different conditions of the brain, could only be referred to the temperament as something derived from the body, independent of the cerebral organs. But now we know that the brain contains everything—not only organs for the mind, but organs for the body, and that these mental and physical organs in the brain govern the whole constitution, and thus produce all the various conditions of the body, as well as the various characteristics of the mind.

The study of the temperaments, then, is not the study of something distinct from the brain, but rather the study of the whole brain together, and its physical effects upon the body, which re-act upon the mind.

For example, a brain organized to produce a vigorous character, modifies the constitution of the body so as to produce a vigorous temperament, and however imperfect the body may be at the start, such a brain impels the man through a life of exertion, which develops his body into a suitable instrument for an energetic character. Hence the brain which indicates energy, will generally produce an energetic temperament, and the brain which has an unambitious, indolent character, will generally produce an inactive, sluggish, or feeble temperament.

The study of the temperaments, then, is the study of the whole brain together, showing how the condition of every part modifies the condition of every other part, and how the aggregate developement of the brain produces a certain aggregate temperament, or physiological state, which is imparted to all the organs, and which must be considered in the study of every separate organ.

We cannot judge correctly of the power of a single organ, without bearing in mind that the whole brain acts together, and that the whole-brain influence, or temperament, modifies the action of every organ. It is impossible, therefore, to understand temperaments thoroughly until we understand the whole brain thoroughly, for every organ of the brain contributes its influence to make up the temperament, and no one can understand temperaments thoroughly, but the thorough anthropologist, who understands how all the parts contribute to influence each other.

To understand temperaments thoroughly it should be the last subject taken up, as it is the most comprehensive view of the one study of man. But in order to understand everything as we progress, it will be desirable to take a hasty view of temperament at the very beginning of our studies.

The remarks which are commonly made upon temperaments are quite unscientific, being based upon the old notions transmitted down from the days of Aristotle, when certain fluids—the blood, bile, phlegm, black-bile, and animal spirits, were considered the determining causes of temperamental states. The crude and fanciful physiology of the Greeks was long since obsolete. But the doctrine of temperaments, based upon their physiological crudities, has still maintained its place, for the want of a comprehensive cerebral science and a complete Anthropology.

As the old fashioned terms are still in current use, we must recognize them as a portion of our popular language, though not a legitimate portion of science. Let us then see what these terms signify in their common use, and what is their proper interpretation by science.

Men of strong active passions and lively emotions, with a quick and moderately profound intellect, and a good physical developement, generally presenting a rather florid complexion, are called men of the *sanguine temperament*.

Those in whom the intellect, passions, and emotions are well developed—who have in all respects greater endurance, hardihood, and ambition, strength of character and capacity to perform great labor—possessing a good physical developement, with greater firmness of fibre and ruggedness of outline than belong to the sanguine temperament, having also a darker complexion, with less plumpness and rotundity of flesh, are said to possess the *bilious temperament*.

When we perceive an unusual degree of delicacy, quickness and variety of manifestation, with less of passion and sensuality than belong to the sanguine, and with less power, hardihood and endurance, than belongs to the bilious, we have what is called the *nervous temperament*, in which there is less muscular developement and greater delicacy of features.

When all the leading characteristics of the nervous, sanguine, and bilious temperaments are absent—when we have neither the active force of the sanguine, the sustained energy of the bilious, nor the delicate quickness of the nervous, we have a negative temperament, which is called the *lymphatic* or *phlegmatic*, in which the complexion has neither the delicacy of the nervous, the more florid color of the sanguine, nor the deeper or darker hues of the bilious. The features are less marked, the muscles are less powerful, the flesh of a moderate firmness, and the vital movement generally slow and free from excitement.

This classification of temperaments is based upon empirical observa-

tion, yet it corresponds very nearly with the natural grouping and classification of the elements of character.

The characteristics of the **BILIOUS** temperament will be seen in all individuals in whom the occiput is large and predominant in action. The essential organs of this temperament, which are Firmness, Energy and Ambition, lie in the upper part of the occiput. It is not absolutely essential to the bilious temperament, that the basilar organs of the occiput should be large, but it is necessary that they should not be small. If they are large, the bilious temperament assumes a restless and passionate character. If they are small, it is distinguished more by endurance than by violence or overwhelming force.

The **NERVOUS** temperament, which is almost the opposite of the bilious, is produced by the development of the intellectual and sensitive organs, from which it derives its delicacy and quickness, combined with certain organs of the side head, which give it an excitable activity, without having sufficient development of the occipital and basilar organs to give it the strength and active force of the bilious and sanguine.

The **SANGUINE** is not so strongly marked in peculiar development, as it deviates less from the average symmetry of the human race. In what is called the sanguine temperament, there is a full development of the whole brain, which sustains a symmetrical proportion to the entire person, but is decidedly below rather than above the intellectual standard. There is not sufficient predominance of the occipital organs to produce the bilious temperament, nor enough of the frontal for the nervous. The basilar organs must have a full, if not large development, producing vigorous appetites and passions, muscular force and circulation of blood, but governed by a sufficient development of the coronal organs to produce correct and generous sentiments, although the passions may not be entirely subdued.

If then we should name the temperaments from the predominance of organs or the activity of the different cerebral regions which they display, we might group them as follows :

The BILIOUS temperament	from the	OCCIPITAL organs.
NERVOUS	“	“ FRONTAL and LATERAL .
SANGUINE	“	“ BASILAR .
LYMPHATIC	“	“ ANTERIOR CORONAL & BASILAR .

We have now to consider the **LYMPHATIC TEMPERAMENT**. The leading characteristics ascribed it are relaxation and inactivity, which may be said to depend upon absence of development and lack of cultivation, as well as upon the positive traits belonging to the cerebral organs. To produce the lymphatic temperament in perfection, the lungs and chest, including the heart, should be but moderately developed—the muscles pale and feeble, the brain and abdomen large. The entire occipital

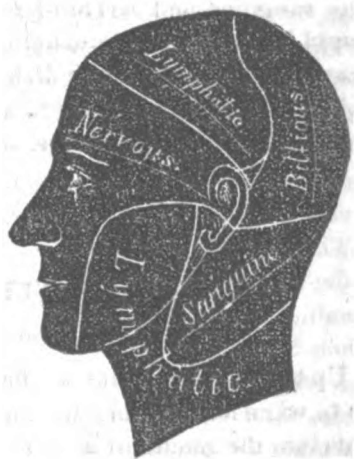
half of the head should be moderately developed, while the frontal and anterior coronal regions may be developed in various proportions; Firmness, Energy and Ambition should be small; Caution and Restraint should be large; Excitability, Irritability and Combateness should be small; Patience, Tranquillity and Relaxation large; Reverence, Modesty, Religion and Hope should be well developed; Love and the social sentiments may be full or average. The leading characteristics of this temperament are derived from large Restraint, Cautiousness, Tranquillity, Patience and Relaxation, with a small development of the excitable, combative, passionate and ambitious regions.

The following outline will exhibit more clearly than any verbal description, the foundation upon which the old classification of temperaments rests, when we refer them to the brain. In this sketch, we observe the nervous, lymphatic, bilious and sanguine temperaments succeeding each other in regular order from before backwards, as we pass around the head. The region of the lymphatic temperament commencing on the side-head in the regions of Cautiousness, Coolness and Restraint, passes over the top of the head to the median line, descending internally, and reappears upon the neck and side face, being located both above and below, in the middle of the head, tending to give it elevation, depth and rotundity; while the nervous and bilious regions tend to elongate the head, antero-posteriorly, giving the head a sharp, bold outline. From this arrangement, it appears that the lymphatic temperament is a complex affair, depending upon cerebral and abdominal development, the brain and abdomen being larger than the chest and muscles. Hence we have the cephalic lymphatic, when the upper region is developed, and the abdominal lymphatic from the lower development, with which are associated the general nourishment and corpulence of the body.

The nervous region embraces, in addition to the intellect, not only the excitable and irritable regions of the side-head, but the region of Ardor and active manifestation which corresponds to the anterior part of the face.

The sanguine temperament is here referred to the basilar region, not meaning thereby the extreme and murderous predominance of the passions, but a sufficient strength and activity in the basilar regions to constitute prominent traits of character.

The bilious temperament, from its occipital location, is often allied to



the sanguine in such a manner as to render it difficult to distinguish their proportional power. The noblest characters are formed by the union of the bilious and the cerebro-lymphatic—the worst, by the union of the sanguine with the abdominal lymphatic, both in excessive predominance. The most amiable characters are formed by the union of the nervous with the cerebro-lymphatic. The most delicate and inefficient are the nervous-lymphatic.

In this arrangement, the nervous is chiefly antagonized by the bilious—the higher or cerebral lymphatic by the sanguine, and the lower-lymphatic by the bilious. The bilious antagonizes the nervous lymphatic. The sanguine and cerebro-lymphatic are almost exact antagonists. It would be interesting to examine this subject further, and indicate the exact boundaries of these divisions among the cerebral organs, but the object at present is merely to show the general correspondence of the empirical divisions of Temperaments with the true science of the brain.

(To be continued.)

THE LENGTH OF HUMAN LIFE.

(From Blackwood's Magazine.)

Up to the present time we have only been able to hazard guesses, both as to when old age begins, and when life naturally ends. What David puts into the mouth of Moses we will certainly receive as a fair expression of the truth regarding the length of human life: "The days of our years are threescore years and ten; and if by reason of strength they be fourscore years, yet is their strength labor and sorrow, for it is soon cut off and we fly away."* And fixing the limit of life at seventy or eighty we of course reckon old age to begin a great many years earlier.

But physiological anatomy has recently come to our aid, and professes now to give us definite and precise views, in regard both to when old age begins and when life naturally ends.

The life of the body naturally divides itself into two parts. During the first, the body increases in size and developement; in the second it decreases or becomes less. The first half includes the two stages of infancy and youth—the second half, those of manhood and decay. These are the four periods or epochs of human life, which are generally received and spoken of. And we divide each again into an earlier or later period of uncertain duration. We talk of later infancy, of early youth, of full manhood, of declining old age, without attaching any fixed or definite ideas to these expressions.

"I propose, however," says M. Flourens, in a book which has recently awakened the attention of all Paris—"I propose the following natural divisions and natural durations for the whole life of man:—

*Psalm xc., ver. 10—(A Song of Moses.)

"The first ten years of life are infancy, properly so called; the second ten is the period of boyhood; from twenty to thirty is the first youth; from thirty to forty the second. The first manhood is from forty to fifty-five; the second from fifty-five to seventy. This period of manhood is the age of strength, the *manly* period of human life. From seventy to eighty-five is the first period of old age, and at eighty-five the second old age begins." These periods all shade insensibly into each other, so that, in an actual life, we can hardly tell where the one ends and the other begins. They vary in length, also, in different individuals, and most men now-a-days become old and die while they ought still to have been in the period of early manhood.

The limits thus assigned by Flourens to the several periods of life are not wholly arbitrary, like those we generally talk of; on the contrary, a more or less sound physiological reason is assigned for each. Infancy proper ceases at ten years, because then the second toothings is completed—boyhood at twenty, because then the bones cease to increase in length—and youth extends to forty, because about that time the body ceases to increase in size. Enlargement of bulk after that period consists chiefly in the accumulation of fat. The real development of the parts of the body has already ceased. Instead of increasing the strength and activity, this later growth weakens the body and retards its motions. Then when growth has ceased, the body rests, rallies, and becomes invigorated. Like a fortress, with all its works complete, its garrison in full numbers, and threatened with an early siege, it repairs, arranges, disposes everything within itself. The new stores it daily receives are employed in fully equipping, in strengthening, in rebuilding, and in maintaining every part in the greatest perfection and efficiency. This period of internal invigoration lasts fifteen years (that of the first manhood), and it maintains itself for ten or fifteen years, when old age begins.

And what marks the beginning of old age? In youth and manhood we perform a usual daily amount of physical or mental labor; but we are able to do more. Let an emergency arise, and we find within us a *reserve* of strength, which enables us to accomplish far heavier labors; we double or triple our exertions, we accomplish the unusual work, and, after a little rest we are as strong and hale as ever. Old age has come on when we can no longer do this, when the natural strength is barely sufficient for the daily work, when anything unusual fatigues, and extraordinary efforts sensibly injure the health. When the reserve of strength is exhausted, the age of decline has fairly begun. It is by drawing upon this natural store of reserved strength, through excess in living faster than it can be naturally repaired, that manhood is shortened, and an old age so often prematurely entered.

And, besides, old age is distinguished by this, that it brings with it a

general weakening of the whole body. It is not the lungs, or the heart, or the nerves, or the muscles, that lose their tone, and become incapable of unusual or prolonged exertion. Local disease may weaken one organ, while all the others remain sound and vigorous as ever. But old age impairs all alike. Each, so to speak, has consumed its treasured store of surplus strength, and living, as it were, from hand to mouth, is barely able to accomplish the daily task which the bodily movements impose upon it.

Yet old age does make itself felt more, in every individual, upon some one organ than upon all the others. There is a weak member in every man's body. All parts are not alike strong and healthy in any of us. On this weak member old age tells most sensibly; and hence in one man, the decline of strength first distinctly manifests itself upon the lungs, in another upon the stomach, and in a third, upon the heart. As the excessive weakening of any one organ influences—hampers, we may say, and obstructs—all the rest, it may happen that this weakness, original or acquired, of one important organ, may suddenly arrest life altogether when the age of decline arrives. As a penalty for the excessive use which has impaired that organ, old age may be barely reached before the whole machinery of life spontaneously stops, and is arrested at once.

Such are the periods into which M. Flourens divides the natural life of man, and such the physiological reasons assigned for the duration he ascribes to each. His second period of old age begins at eighty-five, and thus the complete natural life of man, according to his view, can scarcely fall short of a century. But that the natural normal life of man ought to carry him on to his hundredth year, is a somewhat startling assertion. We naturally ask, therefore, for further proof upon this special point.

What says experience, for example, to this alleged long life as natural to man? "The man," says Buffon, "who does not die of accidental diseases, lives everywhere to ninety or a hundred years." This is the answer of experience—experience from the mouth of an eminent naturalist. [Eminent but fanciful;—his next remark is absurd.—Ed. Jour. of Man.]

"When we reflect," he adds, "that the European, the negro, the Chinese, the American, the civilized and the savage, rich and poor, citizen and peasant—otherwise differing so much from each other—are yet all alike in this, that the same measure, the same interval of time, separates their birth from their death—that difference in race, in climate, in food, in comforts, makes no difference in this common interval, we must acknowledge that the length of life depends neither upon habits, manners, nor quality of food; that nothing can change the laws of the mechanism by which the number of our years is regulated."

All this is true. The length of life depends on the essential constitution of our internal organs.

That comparatively few men reach ninety or a hundred years is also

true, says experience, but that is because of the interference of *disturbing* causes. Most men die of disease; only a small number die of old age. In our artificial life, the moral is more frequently sick than the physical man. In a calmer moral atmosphere, *entire* lives would be more frequently spent. "Almost all," says Buffon, "spend their lives in fear and contention, and most men (most Frenchmen, of course, he means), die of chagrin." Among savage tribes it is the same. Few die a natural death. All die by accidents, by hunger, by wounds, by the poison of serpents, by epidemic diseases, etc. That few really reach their hundredth year, therefore, experience repeats, is no proof that such is not the natural term of human life.

Haller, professedly a physiologist, likewise investigated this question historically, or by the light of recorded experience. He collected together all the authenticated instances of long life. Of these the two extreme cases are the Englishman, Thomas Parr, who died in the reign of Charles I. at the age of 152, and another less certain case, of 169. His conclusion—not a very precise one—is, that *the utmost limit of human life is not within two hundred years (non citra allerum seculum!)** But though himself a physiologist, this deduction of Haller is only a historical one. It is based on no physiological data.

What, then, does Physiology say? Buffon not only investigated the subject historically, or by the light of experience, as we have seen, but he was the first also to study it physiologically. He writes as follows: "The total duration of life may be estimated to a certain degree by that of the duration of an animal's growth. . . . Man increases in height up to his sixteenth or eighteenth year, and yet the full developement in size of all the parts of the body is not completed till his thirtieth year. The dog attains its full length in one year, and only in the second year completes its growth in bulk or size. Man, who takes thirty years to grow, lives ninety or a hundred years. The dog, which grows only during two or three years, lives only ten or twelve; and it is the same with most other animals."

This passage contains the germ of an idea which he afterwards develops more clearly. "The duration of life in the horse," he says, "as in all other species of animals, is proportionate to the length of time during which it grows. Man, who takes fourteen years to grow, may live six or seven times as long; that is, to ninety or a hundred years. The horse, which completes its growth in four years, may live six or seven times as long; that is, to twenty or thirty years." And again: "As the stag is five or six years in growing, it lives also seven times five or six; that is, to thirty-five or forty."

So far, Buffon lays down the true physiological problem. The length of life is a multiple of the length of growth. His own deductions as to

* *Not within one hundred years,* should be the translation—or, literally, 'not on this side of the second century.'—ED. JOURNAL OF MAN.

the true multiple were uncertain, because his data were. He did not know accurately at what age the growth of man and other animals really ceased, or what was the true sign of such cessation. At this point M. Flourens takes the question up; and with more accurate anatomical and physical data, he has arrived at what he believes, and what certainly appear, more reliable results.

"I find," he says, "the true sign of the term of animal growth in the reunion of the bones to their epiphyses. So long as this union does not take place, the animal grows. As soon as the bones are united to their epiphyses, the animal ceases to grow."

In man, this reunion takes place at the age of twenty years, and he lives ninety or a hundred. The following table contains the other data given by M. Flourens:—

Man grows for 20 yrs, and lives for 90 or 100	The dog,	2	10 to 20
The camel, 8	40	The cat, 1½	9 or 10
The horse, 5	25	The hare, 1	8
The ox, 4	15 to 20	" Guinea-pig 7 months,	6 or 7
The lion, 4	20		

By these data the result of Buffon is corrected. All the larger animals *live about five times longer than they grow*, instead of six or seven times, as inferred by Buffon. Thus, by a physiological analogy, the ordinary natural life of a man is fixed at a hundred years. He grows twenty, and five twenties make up the hundred. If some few men live beyond the hundredth year, it may be that their natural growth was also unusually prolonged. Or some extraordinary prudence in living, or uncommon constitutional strength, may have secured for these rare individuals their extraordinary length of life.

But, having arrived at a degree of comparative certainty in regard to the ordinary or natural length of human life, we turn with renewed interest to these extraordinary lives. Can any general physiological relation be discovered, by which the utmost possible or extreme limit of human life is determined—that limit beyond which man cannot *possibly* live? To this question Physiology as yet returns no answer. It falls back, in its turn, upon historical experience, and even from that source gathers only presumptive evidence.

We have seen that from a consideration of the extreme cases of long life to be found upon record, Haller had concluded that the extraordinary limit of life approached to two centuries. Buffon reached the same conclusion by a different process. The ordinary life of a horse is twenty-five years; but there is a case on record of a horse of the Bishop of Metz, which lived fifty years, or double the ordinary length of a horse's life. "The same should happen in other species, and therefore in the human species," says Buffon. Man, he concludes, *may* live to double the length of human life.

In aid of this analogical argument of Buffon, M. Flourens brings fur-

ther facts. The camel, which has an ordinary life of forty or fifty years, has lived to a hundred. The lion, which lives commonly to twenty, may live to forty or even to sixty. Dogs have lived twenty, twenty-three, and twenty-four years, and cats eighteen and twenty. From all these cases united, he concludes—in regard to mammiferous animals, to which our accurate knowledge is at present confined—"that it is a fact, a law—in other words, the general experience in regard to that class—that *their extraordinary life may* be prolonged to double the length of their ordinary life;" that is to say, the extreme possible limit of human life is measured by ten times the period of growth.

"A first century," he adds, "of *ordinary life*, and almost a second—a half century at least—of *extraordinary life*." Such is the perspective which science opens up to man. It is true that science opens this great *fund of life* to us, more in the possible than the actual—*plus in posse quam in actu*, to speak after the manner of the ancients; but were it offered to us in the actual, would the complaints of men cease? * *

An old age thus protracted—a life continued to the full period of one century only—are they worth struggling for, are they worth living for, are they worth having when they come? Solomon speaks of them as "evil days," as years in which a man shall say, "I have no pleasure in them." And he describes the infirmities of the period as "the day in which the keepers of the house shall tremble, and the strong men bow themselves, and the grinders cease because they are few, and those that look out of the windows shall be darkened, and the doors shall be shut in the streets . . . and all the daughters of music shall be brought low . . . and fears shall be in the way, and the almond tree shall flourish, and the grasshopper shall be a burden, and desire shall fail."

The frailties of extreme old age are truly pictured in the figurative language of Solomon. Physical strength declines as old age advances; this fact is unquestionable. But for this decline of strength, does old age bring with it no compensation? "The physical loses," says Cornaro, "that is certain." "The moral gains," says Cicero. "More than the physical loses," says Buffon. "A noble compensation," says Flourens. "It makes one wish to become old," says Montaigne, "And then how advantageous to live long," adds Cornaro; "for if one is a cardinal, he may become pope as he grows older; if he occupy a distinguished place in a republic, he may become its chief; if he be a learned man, or excel in any art, he may excel in it still more."

We might quote the praises which Cornaro lavishes on old age. But seeing him bear so joyously his many years, we almost identify him at ninety-five with old age in person, and feel as if he were only sounding the praises of the ancient Cornaro himself.

Cicero, on the other hand, wrote of old age, when he was still too young. His praises read sweetly, and contain much truth; but it is the

composition we admire, as much as the sentiment it embodies. We reflect that Cicero, in talking of old age, was still far from the period when he might speak of it from experience. He was only composing a theme which he had set himself as a task.

But at seventy years of age, Buffon, who regarded himself as still young, wrote—not of set purpose, but incidentally, and among his other writings—concerning old age. We listen as to the true and genuine homage of one who stands on the confines of both periods, and feels himself entitled to speak freely of each—when, in contrasting his own state with that of younger men around him, he says,—“ Every day that I rise in good health, have I not the enjoyment of this day as immediately and as fully as you have? If I conform my movements, my appetites, my desires, to the impulses of a wise nature alone, am I not as wise and more happy than you? And the view of the past, which awakens the regret of old fools, offers to me, on the contrary, the enjoyments of memory, agreeable pictures, precious images, which are worth more than your objects of pleasure; for they are pleasant, these images, they are pure, they call up only amiable recollections. The inquietudes, the chagrin, all the troop of sadnesses which accompany your youthful enjoyments, disappear in the picture which represents them to me. Regrets ought to disappear in like manner; they are only the last flashes of that foolish vanity which never grows old.

“ Let us not forget another advantage, or at least a powerful compensation, which contributes to the happiness of old age. This is, that the moral gains more than the physical loses. In fact, the moral gains everything; and if something is lost by the physical, the compensation is complete. Some one asked the philosopher Fontenelle, when ninety-five years of age, which twenty years of his life he regretted the most? ‘ I regret little,’ he replied; ‘ and yet the happiest years of my life were those between the fifty-fifth and the seventy-fifth.’ He made this confession in good faith, and his experience arose out of these sensible and consoling truths. At fifty-five years a man’s fortune is established, his reputation made, consideration is obtained, the state of life fixed, pretensions given up or satisfied, projects overthrown or established, the passions for the most part calmed or cooled, the career nearly completed, as regards the labors which every man owes to society; there are fewer enemies, or rather fewer envious persons who are capable of injuring us, because the counterpoise of merit is acknowledged by the public voice.”

“ The spirit increases in perfection,” says Cornaro, “ as the body grows older.” It becomes fitted for new duties and exercises of mind; for the development of the human faculties is not simultaneous, it is successive. Those which rule at one period become subordinate at another. “ In youth,” says Flourens, “ the attention is quick, lively, always on the alert, fixes itself on everything, but reflection is wanting. In manhood, attention and reflection are united, and this constitutes the strength of

manhood. In old age, attention lessens, but reflection increases; it is the period in which the human heart bends back on itself, and knows itself best."

"The old man," says M. Reville Parise, "smiles sometimes, he very rarely laughs. Goodness, that grace of old age, is often found under a grave and severe exterior, for the first comes from the heart, and the second from the physical being, which has become weak. Patience is the privilege of old age. A great advantage of a man who has lived long is, that he knows how to wait. In the old man, everything is submitted to reflection."

Thus old age has its pleasures, it appears, and its compensations. It is by no means the unenjoyable period we are apt to fancy it. For its calm and reasonable pleasures, wise men praise it above the other periods of life. It is surely worth living for, therefore. It is even worth sacrificing the pleasures of youthful excess, if by so doing we can hope to reach and live through it. But if it begin only at seventy—the natural termination of manhood, according to M. Flourens—how few ever do reach it! and of these, again, how few have left themselves in a condition to taste its peculiar enjoyments and compensations!

But if old age be an enjoyable period of life—if it be really worth living for, it is worth caring for when reached. It is to be reached, as we have seen, by living a sober life; it is to be reached in good health by a reasonable obedience to the rules of Lessius. But when this green and worthy old age is attained, how is it to be nursed and specially upheld?

With a view to this special end M. Reville Parise has laid down four simple rules.

The **FIRST** is *to know how to be old.*

The **SECOND** rule is *to know oneself well.*

The **THIRD** rule is *to make a suitable adjustment of the daily life.* "One can scarcely believe," says Reville Parise, "how far a little health well treated will carry us." And the "rule of the sage," says Cicero, "is to make use of what one has, and to act in everything according to one's strength."

And the **FOURTH** rule is, *to attack every malady at its beginning.* In youth there is a reserve of force—a dormant life, as it were, behind the visible acting life. The first life being in danger, this second life comes to its aid—and thus youth rallies after much neglect or ill usage, and still lives on. But old age has no such reserve life. Every ailment of age, therefore, must be taken up quick and cut short, if the single, unsupported, easily enfeebled life is to be surely upheld.

We cannot by any art *prolong* life, in the sense of making it pass the limit prescribed by the constitution of man. But we shall be able to live an entire and complete life—extending our days as far as the laws of our *individual* constitution, combined with the more general laws which regulate the constitution of the *species*, will admit of.

COMMENTARIES ON LONGEVITY, ETC.

The article upon Longevity in the present number, from Blackwood's Magazine, quotes as its leading authorities M. Flourens, and M. Buffon, authors whose judgment or reliability I would be far from endorsing. Flourens is doubtless a learned man, and a careful observer of mere facts, but as to depth of reasoning or soundness of judgment he makes but a poor figure in comparison with the really eminent men of the medical profession. His criticisms upon Phrenology were of a vapid and trashy character—unworthy the dignity of a member of the Academy. Buffon, who wrote in a less scientific period, has still less claims to our confidence, and we may well doubt the accuracy of the conclusions of such writers. The assertion of Flourens, that man's growth generally ceases at the age of twenty years, in consequence of the union of the bones with their epiphyses, is quite contrary to general experience. It is true that the stature seldom increases much after twenty years of age, but the entire person, according to common observation, continues to grow until forty-five or fifty years of age, and often for a longer period. The growth of the brain instead of terminating at the twenty-first year, generally continues until about fifty years of age, as determined by careful measurement of its weight. If, then, the life of man were estimated at five times his average term of growth, it would considerably exceed two hundred years.

If, on the other hand, longevity were estimated at five times the period of growth in altitude, the period thus arrived at, one hundred years, might express appropriately the average duration of healthy constitutions under the ordinary circumstances of life. The slight additional growth in stature, which sometimes occurs between twenty and thirty, might correspond with the additional longevity of those who outlive a century. From casual attention given to this, among other physiological subjects not long since, I came to the conclusion that the average normal life in strict obedience to the laws of health, was about one hundred and forty years. Human life consisting, according to this estimate, of three parts of about equal duration;—the first forty-seven constituting the period of active growth;—the second the period of equilibrium extending to the age of ninety-four,—and the third the period of gradual decline, extending to the term of one hundred and forty years.

Probably there are but few persons of the present generation, with their degenerate and diseased constitutions, who are able to realize this term of life by any possible management. But there are some who have inherited powerful constitutions from an ancestral stock not yet debilitated by the sedentary pursuits of civilization, nor relaxed by the luxurious vices, who might, by the combined influence of scientific wisdom and constitutional stamina, realize this longevity.

A longevity of one hundred and forty years is not anomalous. There are probably always a considerable number of living persons at or above that age. In the reign of Vespasian, a census revealed in the region of Italy between the Appenines and the Po, and in Parma, Brussels, Placentia, Faventia, and Rimino, fifty-four persons, 100 years of age, sixty-three of 110, seven of 120, three of 125, six of 130, one of 131, one of 132, four of 136, three of 140, and one of 150.

In the United States, by the last census, there were seven hundred and eighty-seven persons over one hundred years (357 males and 430 females). There were also eight thousand one hundred and fifty-two from 90 to 100 years of age (3653 males, and 4499 females). The number of persons over 90 years of age in the entire population was one to 2187, and the number over one hundred years was one to 24,843, or in round numbers, one to 25,000.

In the State of Ohio the number over 90 years of age was 619, or one to 3158. The greatest relative number of old persons (90 years of age and upwards) was in Vermont, North Carolina, and Virginia, viz:

Vermont,	population,	313,402	old persons,	263	ratio, 1 to	1190.
N. Carolina,	"	533,028	" "	412	" " "	1293.
Virginia,	"	894,900	" "	580	" " "	1543.
Ohio,	"	1,955,050	" "	619	" " "	3158.

The following examples of remarkable longevity are supposed to be authentic:

Names.	Age.	Authority, etc.
M. Laurence, (Orca les)	140	Buchanan's History of Scotland.
W. Gulston, (Ireland)	140	Fuller's Worthies.
A. Goldsmith, (France)	140	Daily Advertiser, June, 1776.
Countess of Desmond, (Ireland)	140	Rawleigh's History.
James Sand, (Staffordshire)	140	Fuller's Worthies.
Simon Sack, (Trionia)	141	
Abraham Paiba, (Charleston, S. C.)	142	General Gazeteer.
Countess of Eccleston, (Ireland)	143	Fuller's Worthies.
C. J. Drakenberg, (Norway)	146	Died June 24, 1770.
Col. Thos. Winslow, (Ireland)	146	Died August 26, 1766.
Francis Consist (Yorkshire)	150	Died January, 1768.
Marcus Aponius, (Rimino)	150	& up'rds, Vespasian's census.
James Bowell, (Warwickshire)	152	Died August 15, 1656.
Thos. Parre, (Shropshire)	152	Died Nov 16, 1635—Phil. Tran., No. 44.
Henry Jenkins, (Yorkshire)	169	Died Dec 8, 1760 Phil. Tran.

According to the London Chronicle, October 5, 1770, a negress named Louisa Truxo, was then living at Tucuman, South America, aged 175.

According to the Boston Recorder of 1849, a Russian named Michofsky Pleaskou, in Novogorod, Russia, died at the age of 165. He labored in the field at 120—he lived a very sober life. His mother lived to 117.

DR. ELLIOTSON'S LECTURE IN THE MAY NO..

"Not a single objection to the principles of Phrenology is adduced, (says Dr. Elliotson) that was not urged in the time of Gall, and amply refuted by him, but then, none of these objectors have studied Gall."

Very true. The entire corps of anti-phrenological writers have been unable to attack the science efficiently, on account of their limited acquaintance with its principles and details. In fact the whole posse, from Sir Wm. Hamilton and M. Flourens, down to Dr. Sewall and Rev. Mr. Rice, are scarcely worthy one heavy broadside of scientific ammunition. Whatever their talents and attainments in other departments they were entirely out of place in the discussion of Phrenology, for none who were really at home in that subject would display themselves as anti-phrenologists.

The remark of Dr. Elliotson that it is much to be regretted that the writings of Gall should be so little known; and so extensively superseded by the writings of his followers, is still more applicable to our own country, where Gall has been almost crowded out of sight by publications of no very profound or scientific character, the tendency of which has been not only to popularize Phrenology among the illiterate, but to lower its standing among the scientific, and transfer it from the halls of science to the social circles, in which it is put on a level with other themes of idle amusement and popular discussion. It is time to re-assert the dignity of the science and claim for it an honorable position among the great moral powers which guide the progress of mankind. (In May No.)

The anatomical remarks of Dr. Elliotson may possibly embarrass some readers, who are unacquainted with technical terms, and if so, I would now offer a brief explanation, which will enable them to re-peruse the lecture of Dr. Elliotson with more satisfaction. Dr. Elliotson speaks of the decussation of the fibres of the medulla oblongata discovered by Dr. Gall, which was afterwards claimed by Serres and Flourens. The word "decussation," refers to the crossing of the nervous fibres at the summit of the spinal cord, in the medulla oblongata, by which arrangement each hemisphere of the brain is connected with the opposite half of the body. The decussation or crossing of the anterior fibres called pyramids, is very obvious at the anterior face medulla oblongata, which, in the cranium is nearly in a line between the ears. The other decussations are much less obvious, and require anatomical skill for their demonstration.

The unfolding of the brain in hydrocephalus announced by Gall and Spurzheim, is an interesting phenomenon, which shows that the convolutions of the brain cannot be regarded as cones radiating from the medulla oblongata to the cranium. For further explanation I must refer to the anatomical description of the brain in the system of Anthropology.

THE BRAIN AND INTELLECT.

At the thirty-first annual meeting of the Society of Natural Philosophers in Germany, at Gottingen, last year, Dr. Prof. Huschke, from Jena, communicated some remarks upon the mutual connection between the *cranium brain* and *soul* of men and animals. It is a generally received opinion among the physiologists, that the convolutions of the brain exercise an important influence upon the mind. It follows from Huschke's researches, that, *vice versa*, the mind exercises an important influence upon these convolutions. He has noticed that the brain convolutions in herbivorous animals, as sheep, oxen, horses, etc., differ from those in wild animals, as lions, panthers, bears, seals, etc., while the hog and elephant occupy a space between those two species. The more those convolutions are twisted—the deeper the furrows are drawn between them, the more indentations and branches they have, and the more irregular and unsymmetrical they appear—the more perfect is the species of the animal, so that the condition of those convolutions corresponds with the intellectual developement, upon which, however, training, continued from generation to generation, exercises a marked plastic influence.

The brain of the fox and wolf has less perfect convolutions than that of the dog, whose brain, and, consequently, intellect, have been gradually improved by training or domestication. The brain convolutions of the ox and sheep are less perfect than those of the horse, and in the same proportion is the latter more intelligent than the first. The elephant's brain surpasses by its better developed convolutions that of the hog. So are the brain convolutions of the negro, living from generation to generation in a state of intellectual childhood, less perfect than those of the brain of the Caucasian, and are similar to those of the Caucasian child or woman. A part of the brain convolutions, as the insula, lobus apertus, are wanting in mammalia, the ape excepted, who has a cartilage-like indication of it, while in man it is perfectly developed with all its branches.

These communications were received by the savans with applause, and will, when published, (the book was then in press), cause a sensation in the United States, where the three different races, viz: the Caucasian, Mongolian, and Ethiopian are intermingling, giving ample opportunities for the study of their brains, and where, even, without a close scrutiny of those brain convolutions, public opinion is prepared for a judgment on the diversity of these races. Our trouble only is, that some of our not strongly enough convoluted Yankee brains will not admit this diversity, and advocate an absolute equality of men, however such an equality be against nature, when not two drops of water are alike.—*Journal of Commerce*.

DR. BELL'S REPORT ON SPIRITUALISM.

"A meeting of the Superintendents of Institutions for the Insane in the United States has just closed a brief session in Boston. There were twenty-seven Superintendents present. The feature of the occasion was the reading of an elaborate paper on spiritual manifestations and influences, by Dr. Luther V. Bell, of the Asylum at Somerville, Mass. After stating various experiences, he summed up his present conviction as follows:

1. That there is abundant evidence that a novel influence or power exists, through certain persons, known as mediums, by which extraordinary results follow.

2. That objects of considerable weight are moved without human contact, though at considerable distance—in the experience of the narrator, up to fifty feet at least.

3. Questions put mentally are answered correctly, involving too many circumstances to be explained on the idea of coincidence, provided the true response is in the mind of the questioner, or some one at the circle.

4. In no instance, in his experience, were correct replies given where the response was unknown to some one present.

5. Replies supposed by the interpreter to be correct, are given, as he believes them, true, even when afterwards they are proved to be erroneous. He gets the responses as he supposes them to be, not as they are.

6. There is no evidence of any spirit existence in these extraordinary phenomena; nor have they any connection with the future state of being, so far as his observations warrant an opinion. ●

7. The explanation must be admitted to be beyond our knowledge, yet certain analogies existing between states of dreaming, certain changes in mania, etc., would seem to point to the *duality* of the brain as connected with some of these phenomena.

8. The subject is worthy the rigid investigation of all those whose duties are connected with our speciality. Whether regarded as a physical novelty or a wide-spread epidemic of the mind, the subject is of immense importance, and deserves a much more respectful treatment than it has generally met with.

A majority of the gentlemen who took part in the discussion of the second question, concurred in the views expressed by Dr. Bell. No specific action was had."

The above report shows that the *world still moves*. Even physicians recognize some marvellous facts. But it is remarkable that scientific men generally, instead of being the *first* to add to our knowledge by extraordinary facts should be the *very last* to perceive them, and then most *reluctantly* consent to learn, rather than be left behind. Dr. Bell is in advance of the profession generally, and the people are in advance of him. What Dr. Bell says he has not seen, many thousands say they have seen.—*Ed. Journal of Mun.*